

INDEX OF SURGICAL PROGRESS.

General Surgery.

I. DEATHS FROM ANÆSTHETICS IN 1884. BY ERNEST JACOB, M. D. Nine deaths from chloroform; in one case the operation had not been begun, and in all it was trifling.

One death from A. C. E. (mixture of alcohol, chloroform and ether) by syncope; the heart pale, and the kidneys full of abscesses.

One death from ether, preceded by chloroform, there being albuminuria and double aortic disease; asphyxia, not syncope.

Three deaths from methylene, one after three minutes' inhalation of ten minims only, the patient being 23.

Five deaths from ether, the operations in all cases being very severe, and the patients much reduced.—*Brit. Med. Journ.* 1885. May 2.

A. F. STREET (Westgate-on-Sea.)

II. ON THE PROLONGATION OF THE ANÆSTHETIC EFFECTS OF COCAINE WHEN SUBCUTANEOUSLY INJECTED. BY DR. J. L. CORNING (New York). By experiment the author has demonstrated that, if the circulation in an extremity is arrested by an elastic tourniquet, as an Esmarch's bandage, applied about five minutes after the subcutaneous injection of a solution of cocaine muriate, the local anæsthetic effect of the cocaine is both intensified and very much prolonged. If the injection is made after the exsanguination and compression, there is little diffusion of the anæsthetic, and consequently a restriction of the zone affected by it.—*N. Y. Med. Journ.* 1885. Sept. 19.

III. CONTACT AND AIR INFECTION IN PRACTICAL SURGERY. BY DR. H. KUMMELL (Hamburg). In consideration of the favorable results achieved of late years by operative surgery with the greatest variety of strong and weak disinfectants and even without them at all, K. asks and attempts to answer the following questions:

Do we really need at the same time toxic antiseptics for securing perfect disinfection?

Are antiseptics really the active factors in the results of surgery?

Is there any quick and surely effective antiseptic?

What significance has the air in wound-infection?

As K. puts it, wound infection may occur in two ways, either by the hands, instruments, sponges, etc. touching the wound (contact-infection,) or by atmospheric germs

falling on the wound (air-infection.) K. endeavors to approach the subject by experimenting under conditions similar to those in practice. He therefore gave less attention to particular micro-organisms from pure cultures than to the ordinary mixture of many kinds as they surround us.

His experiments were so arranged that the separate articles to be examined—hands, instruments, sponges, bits of soft parts from wounds, air and liquid—were brought into relation with Koch's culture material and the development of germs awaited.

An antiseptic or any specified method of disinfection was only considered successful where no bacteria colony of any kind—neither the common mould fungi and putrefaction germs, nor the so-called pathogenic forms—developed.

Experiments with polished instruments taken from the case showed that placing them for 2' in 5% carbolic acid did not stop the development of fungi and bacteria, that even previous brushing with 5% carbolic and remaining 6' in the solution did not in all cases secure perfect disinfection. Similar experiments with 3% carbolic yielded still less favorable results. Subjecting the instruments for 10' to 5% or 3% carbolic regularly produced complete disinfection. Subjecting them 6' or even 10' to $\frac{1}{10}\%$ sublimate did not in most cases prevent the development of a number of colonies; solutions of peppermint, turpentine, white pine or mustard oil 1:500; peroxide of hydrogen or 5% potash soap sufficed in only a few instances to disinfect instruments lying in them 10 to 15'.

Used but carefully cleansed instruments, not exactly polished ones, were still less readily disinfected. After 15' long subjection to 5% carbolic or $\frac{1}{10}\%$ sublimate, instruments used in dissecting lead to the development of abundant fungi and bacteria colonies.

According to K.'s investigations the more or less rapidly achievable disinfection of an instrument depends, next to the polished character of its surface, on its form. Ribbed forceps, four-pronged hooks are e. g. much harder to free of germs than smooth knife blades. A series of experiments carried out on such easily disinfected instruments—scalpels from an etuis—yielded the following results: A scalpel left for 15 or 5' in 3% carbolic was free from all organisms, not so if left only 3'. A 5% carbolic sufficed in 15, 5 or 3'. A $\frac{1}{10}\%$ thymol sufficed in 15', but was entirely inefficient in 3 or 5'. Chlorine water for 15, 5 or 3' was effectual, after only 1', however, a mould fungus developed. Sublimate $\frac{1}{10}\%$ did not stop all organisms in 2 or 15'.

For quick and certain disinfection of instruments, K. finds it best to scrub them with warm water and soft soap, and then place them in an antiseptic solution. The latter is not essential under favorable conditions and in a well arranged operating room—otherwise it is necessary.

Dissecting instruments after the above preparations could be completely disinfected by 1' subjection to carbolic, sublimate or chlorine water. Other disinfectants are not as sure. A current of steam sufficed in 5 to 10', according to the character of the instruments.

As to sponges he concludes that even when soaked with stinking, putrid material they can be disinfected in 3—4'. Sponges saturated with blood or cadaverous filth or used in operations on phlegmonic or diphtheritic patients could not be freed from bacteria by half an hour's subjection to carbolic or sublimate, nor by a much longer subjection to other disinfectants. On the other hand, thorough washing with warm water and potash soap and subsequent subjection for one to two minutes to 5% carbolic, chlorine water or $\frac{1}{10}\%$ sublimate, always sufficed.

Lint and compresses, after previous treatment with warm water and soap could be perfectly disinfected by dipping in any of the customary antiseptic solutions. Thoroughly washed and dried compresses kept in clean boxes have but to be wrung out in carbolic, sublimate or chlorine. Likewise good absorbent cotton.

Sublimated cotton, gauze and sacks of moss, especially after lying a long time, occasionally produced fungi and bacteria in culture-gelatine.

Raw catgut, even the heavier sorts, if not in too thick layers, is complete after one hour in $\frac{1}{10}\%$ sublimate. To be doubly sure, K. suggests six hours for the lighter and twelve for the heavier strands, and preservation in pure alcohol with a little glycerine.

Silk he sterilizes by preserving in $\frac{1}{10}\%$ sublimate. The hands are the most difficult to disinfect. He seems to prefer, after cleansing with the soap and water, 5% carbolic or possibly chlorine water.

Bits of muscle, fat and connective tissue from fresh wounds—the wound having been washed or irrigated during the operation with sublimated solutions—developed bacteria in culture-gelatine or agar-agar. In one out of three cases where only sterilized water was used the same experiment produced no organisms, in the other two it did.

As to atmospheric infection, he separates the respiratory from the surrounding air. Experiments with five persons—forced expiration through properly closed flasks containing sterilized gelatine—developed no organisms. Another series of experiments with inverted tubes and glasses showed that even coughing and forced expiratory efforts likewise gave negative results—except where particles of saliva were carried along. He, therefore, excludes wound-infection by respired air.

With regard to the surrounding air he concludes that it is practically impossible to make any atmosphere perfectly germ-free. Some very interesting experimental attempts in this direction are described. A room all parts of which have been cleaned with soap and water was found to contain fewest micro-organisms. K. has had the walls of his operating room polished smooth and coated waterproof; corners were rounded; cracks and irregularities so far as possible avoided. The continuity of the walls is only broken by two bronzed iron holders for irrigating fluid. Wood is almost excluded. All necessary objects are of glass, porcelain or marble with wrought iron. The instrument case, made wholly of glass plates, is sunk deep into the wall and tightly closed by iron doors. Floor of polished material. Before each operation the room is soaped and washed with a sponge on a pole. The stove ought to

be replaced by some smooth-surfaced heater.—*Rept. of Germ. Surg. Cong. in Centbl. f. Chirg.* 1885, No. 24.

W. BROWNING (Brooklyn).

Operative Surgery.

I. LIGATURE OF THE FIRST PART OF THE AXILLARY ARTERY. By M. WALTER RIVINGTON (London). The author in a note suggests ligature of the first stage of axillary by making an oblique incision over the line of apposition of the deltoid and pectoralis major, simply separating the two muscles from each other by retractors. To obtain more light the oblique incision may be shortened and a transverse incision added, dividing the skin and fascia at the lower border of the clavicle, and separating the fibres of the clavicular head of the pectoralis major from their attachment to the bone. The triangular flap of skin and fascia and the head of the muscle can then be turned down, without interfering with the nerve supply. By using the handle of the scalpel the edge of the pectoralis minor may be defined, and the artery may subsequently be cleared and tied in any part of the space between the subclavins and the lesser pectoral muscles. The cephalic vein is held aside with a blunt hook.

In a case in which he proposed distal ligature, but in which operation was refused, he observes "if ligature of the axillary had failed, I should have tried lifting the subclavian or innominate with an aneurism needle sufficiently to arrest pulsation, retaining the needle in position for a few hours to enable the blood to coagulate in the sac, then withdrawing the needle and closing the wound altogether.—*Brit. Med. Journ.* 1885, May 23.

W. THOMSON (Dublin).

II. MIKULICZ'S OPERATION FOR PARTIAL EXSECTION OF THE TARSUS. By Dr. A. G. GERSTER (New York). The principle of the operation is as follows: In cases where the heel is denuded of its integument Mikulicz thought that the length of the limb could be preserved and made available for motion without the assistance of complicating apparatus if the calcaneum and astragalus were removed and the anterior portion of the foot saved and brought in contact with the tibia and fibula. The first incision is made almost in the same manner as for Pirogoff's and Syme's operation, cutting down to the bone, beginning a little anterior and below the malleolus on one side, carrying it across the planta pedis, to the corresponding point upon the other side. The incision is then extended up to the center of the malleolus and carried round the leg behind, corresponding to the insertion of the tendo-Achillis. Through this latter incision the posterior aspect of the ankle-joint is exposed and the same is entered and dissected up until the head of the astragalus is denuded, and then the astragalus and calcaneum are severed out of their last connections in Chopart's joint.

When this has been done the remnant of the foot, containing the scaphoid, the cuboid, the cuneiform bones and the metacarpal bones and the toes, is hanging by a flap, situated on the anterior portion of the limb, the nutrition of which is sustained through the dorsalis pedis artery.

The tibia and fibula are then sawn through the malleoli, and also the cuboid and

scaphoid bones are separated from the soft parts sufficiently to permit the saw to be carried through them on a vertical plane. In this way are left two rather extensive bony surfaces, which are brought together and rendered immobile by driving a nail slantingly through the scaphoid into the spongy portion of the tibial epiphysis. Finally the cutaneous edges are united by a continuous catgut suture and the limb swathed in an antiseptic dressing.

Dr. Gerster presented a patient upon whom he had performed this operation on account of disability and deformity, resulting from previous excision of tuberosity of calcaneum and removal of soft parts of the heel for epithelioma. At the end of the operation the bones were fixed in apposition by a long nail driven through the remnant of the scaphoid bone into the tibia. Primary union was secured under antiseptic dressings. At the end of two weeks the nail was withdrawn, no inflammatory reaction having occurred about it. Patient began to walk about very soon. By the aid of a shoe with an elevated heel now walks very comfortably and with a good deal of elasticity.—*Proceedings of the New York Surgical Society*, Meeting of April 14, 1885.

III. ON RESECTION OF THE THORACIC WALL FOR LARGE TUMORS OF THE CHEST. By Prof. MAAS (Wurzburg). On account of osteochondroma of the ribs reaching on the posterior and lateral wall of chest and abdomen, from the scapula to the crista ilei, in a strong man æt. 42, M. had to remove $11\frac{1}{2}$ -centimetre long pieces of the ninth, tenth and eleventh ribs with pleura. Abdominal cavity not opened; pericardium and retracted left lung laid bare. At the moment of opening the pleural cavity the pulse sank from 84 to 60 (vagus irritation). Spray of aluminum acetate. The enormous wound was closed with series of sutures; places left open for discharge of secretions, but no drainage tubes. Astonishingly rapid convalescence. Some dyspnoea on the first day only; by the fifth, vesicular breathing could be heard as far as seventh rib, and by the eighth, over the full extent—at which date only a few granulations remained of the wound. During inspiration the region of bony defect sank in over an extent of $6\frac{1}{2}$ centimetres only. M. believes the favorable course followed from not irritating the pleura with antiseptic washings. H. Fischer's case of cure suffered a severe bronchitis; Leisink lost his from pneumonia.—Report of Germ. Surg. Cong. in *Centbl. f. Chir.*, 1885. No. 24.

IV. ON THE TECHNIQUE OF COLOTOMY. By Dr. A. KNE (Moscow). Vitranga's statistics last year showed that gastrostomy at two sittings gave far better results than at one, owing evidently to the preservation of the fresh laparotomy wound from stomach contents. K.'s experience agrees with this. Of his last twelve gastrostomies, one died on eighth day from perforation of a blood-vessel, and one on twelfth from inanition, while the others lived many months. Like favorable were three laparocolotomies at two sittings. A successful gastrostomy usually gives patient entire relief, while colotomy simply prolongs suffering. Fæcal matter finds its way into the lower bowel, decomposes, leads to the breaking down of the tumor, continuous tenesmus, etc. Shinzinger severs the bowel and closes the lower end; similarly

Volkman. This, however, necessitates a single operation. K. was thus led to experiment with a view to colotomy in two acts that should include closure of the lower gut.

The fact that in spontaneous anus, *præter naturalis*, a point or spur forms, and that then often nothing passes into the rectum, led him to try imitating it. In this he was not successful.

He then doubled the gut at an acute angle and opened it. But this also did not produce complete occlusion, only stenosis. "If the flexed and laterally opened loop of intestine be excised and water under a high pressure injected, the greater part of it flows from the lower portion. If, however, previously a small rather long tampon of batting be introduced as far as the stenosis, the greatest pressure of the syringe cannot overcome the resistance and all the water flows from the fistula."

A third series of experiments bore on the possibility of so far stenosing the gut by a wide, well-disinfected strip of linen as to make it impermeable, without circulatory disturbance. He pulled out a loop of ileum, punctured the mesentery and sewed together the edges of the tape passed around it. The gut above was tied to the wound. Primary union, absolute occlusion, no vomiting. Dog killed on tenth day. Gut above was enormously distended. The constricting band had become completely enclosed without any reaction—no gangrene. Constricted portion of intestine was reduced to a cord and no longer distensible. The last method, therefore, seems to have promise.—*Centbl. f. Chir.* 1885. No. 23. June 20.

V. A METHOD FOR EXTIRPATION OF HIGH RECTAL CANCER. By Dr. P. KRASKE (Freiburg). A report of attempts at devising an operation for removing these growths, which, as Volkman expresses it, are too low for laparotomy and too high for removal from outside. Kocher's excision of coccyx does not suffice here. K. worked out his method on the cadaver. Access to the upper part of the rectum is made far easier by splitting the soft parts in the middle line from the second sacral vertebra to the anus—subject on the left side—preparing off the gluteal musculature on the left as far as the edge of the sacrum, and, after excision of the coccyx, dividing the *ligg. tuberoso-sacrum* and *spinoso-sacrum* at their sacral insertion and drawing away the left edge of the wound. Still better access to the upper rectum is gained by chiseling away a bit of the lower left side of the sacrum. If the bone be divided in a line beginning on the left edge at the level of the *iii* posterior sacral foramen, and running in a curve concave to the left, in and down by the lower border of the *iii* sacral foramen and through the fourth to the left lower corner of the sacrum, the more important parts, especially nerves, are not injured, the neutral branch of the *iii* sacral nerve is avoided and the sacral canal not opened. The upper portions of the rectum thus become so accessible that—the cadaver in dorsal decubitus—the rectum can be amputated without difficulty and in full view, up to where it passes into the flexure. Further, this admits resection of the upper rectum with preservation of the lower end. K. tried this method on the cadaver in a case of high rectal cancer, and

then twice on the living subject. Once in a debilitated woman æt. 47. The cancer began $\frac{1}{3}$ centimetre above the anus, while its upper end could not be felt. The rectum was amputated with avoidance of the external sphincter, where it was wholly surrounded by peritoneum. Course afebrile. Second case in a man æt. 37. Its lower end, $\frac{12}{15}$ centimetre above anus, could just be reached with the finger. A 10 centimetre long portion below was spared, though divided posteriorly. The gut was pulled down and the ends two-thirds united. The lower posteriorly open portion was closed later by a plastic operation.

For the purpose specified he believes this is a good method, though it might be modified and improved—in necessary cases the removal of more bone and opening of the sacral canal would be permissible.—Report of the Germ. Surg. Congr. in *Centbl. f. Chirg.* 1885. No. 24. W. BROWNING (Brooklyn).

Head and Neck.

I. ANEURYSM OR ANASTOMOSIS ON THE HEAD, TREATED BY LIGATURE OF THE COMMON CAROTID AND SUBSEQUENT LOCAL LIGATION. By G. B. FERGUSON and G. A. CARDEW (Cheltenham). Girl, æt. 19. Pulsating swelling at back and right side of head, involving right ear. First stage had been a nœvus. Pulsation strongly marked. Severe hæmorrhages had frequently occurred. Common carotid tied. Immediate result, almost total disappearance of tumor; but soon after slight pulsation returned. Six months later collateral circulation established, and tumor again began to grow. Hæmorrhages returned. One half of the tumor ligatured with a silk thread in the usual manner. A few days later posterior auricular ligatured on a pin. Two months later other half of tumor ligatured, and again six months later the whole of the tumor once more subcutaneously ligatured. Eighteen months after it was evident that a substantial cure had been effected.—*Lancet*. 1885. April 4. P 668. WM. THOMSON (Dublin).

II. ON RESECTION OF THE MAXILLARY JOINT AS A REMEDY FOR ANKYLOSIS VERA MANDIBULÆ. By H. R. RANKE (Groningen). Patient was a boy æt. 10 years, who, in consequence of otitis, had acquired a bony ankylosis of the jaw on the left six years previously. This half of the jaw was greatly retarded in growth; the chin so fallen back that the lower row of teeth stood much behind the upper.

March 9, 1885, R. performed aseptically Bothin-König's chisel resection of the joint, so modified and executed as to include a single incision along the lower border of the zygomatic arch and avoid both temporal artery and facial nerve. The coronoid process was removed at the same time. Active and passive opening of the mouth was possible immediately after the operation. Primary union of the wound.

R. had done two similar operations six years before, one on a young man with a bony ankylosis on the right, from being run over in early childhood. A small piece of bone necrosed after the operation. A functionally good and lasting result was achieved. The other operation, on a girl æt. 16, was more complicated. Complete immobility had followed acute osteo-myelitis of the left side of the jaw, in her fifth year. The old sequestra were first removed; later the bony adhesion to the base of

the skull was resected and finally a span of bone from zygomatic arch to jaw was taken out of the musculature. Good and permanent result functionally.

From his experience resection of the joint has not the danger of recurrence that resection of continuity has. He further recommends König's operation as modified above. Resection of the coronoid process he would limit to cases where, after removal of the articular process, the coronoid is an impediment to opening the mouth.—Rept. of Germ. Surg. Congress in *Centbl. f. Chirg.* 1885. No. 24.

W. BROWNING (Brooklyn).

Chest and Abdomen.

I. PERICARDIAC PARACENTESIS BY FREE INCISION AFTER RESECTION OF RIB. By Dr. C. GUSSENBAUER (Prague). The author presented before the Society of German Physicians of Prague a child *æt.* 13 years, a subject of acute osteo-myelitis, upon whom he had successfully performed paracentesis of the pericardium on account of purulent pericarditis. The fifth rib was resected and the pericardium extensively incised. Pus flowed freely from the incision. The pericardium was fixed with catgut sutures to the edges of the cutaneous wound, the serous membrane being washed with a thymic acid solution. The heart could be felt immediately under the finger. A small fistula still remained when the child was exhibited.—*Arch. Pediat.* 1885. August.

II. PARACENTESIS OF THE PERICARDIUM. By Dr. E. A. MIKHAILOVA (Moscow). Female, *æt.* 35. Had suffered for years from cardiac palpitation. Fell from a considerable height. Was unconscious for a day; on recovering consciousness suffered from giddiness and intense attacks of palpitation on slightest exertion. Increased area of dullness over region of heart. Heart sounds feeble but normal. Symptoms of heart oppression, as evidenced by dyspnoea, cyanosis of lips and nose, steadily grew worse. At end of third week aspiration with Dieulafoy's apparatus was performed in the fourth intercostal space, and 120 cubic centimetres of fluid drawn off. The first 80 cubic centimetres consisted of pure cream-like pus, the remaining 40 almost entirely of blood. Immediately after the puncture, the patient was in a state of semi-collapse, but on the next day there was a noted slight improvement in the subjective symptoms. On the day following the cardiac dullness reached up as far as the clavicle, the pulse became scarcely perceptible, the dyspnoea extreme; the lungs were full of mucous rales. To satisfy the vital indication, incision of the pericardium was performed. It measured about 2 centimetres in length, its spot being close to the left edge of the sternum, in the fourth intercostal space. About two fluid pounds of fetid blood-stained pus escaped. After washing out the pericardial cavity with boracic water (at 35° C.) a drainage tube was inserted, and the carbolic gauze applied. Striking relief immediately followed; the dyspnoea diminished, the pulse became regular and 90, the cardiac dullness normal. However, in spite of three successive subcutaneous injections of ethereal tincture of valerian, the cardiac action remained low, and eighteen hours after the operation the patient died.

At the post-mortem examination there were found fatty degeneration of the car-

diac muscle, dilatation of the cardiac cavities, considerable old fibrinous thickening of the pericardium, fibrino-purulent exudation with admixture of blood in the pericardial sac, right hydrothorax, total obliteration of the left pleural cavity, oedema of the lungs with purulent bronchitis, marantic thrombosis of the pelvic veins and of the vena spermatica interna dextra, ischaemic necrosis of the right kidney; the same, but in a less advanced stage, in the left kidney. A search for bacilli in the heart and pericardium gave negative results.—Extract by V. Idelson, M.D., from *Medit. Obs.* Fasc. V., 1885, published in *The London Med. Record*, 1885, Aug. 15.

III. TAPPING OF THE PERICARDIUM. By Dr. T. G. STEWART (Edinburgh). A new case, with remarks. Patient, male, æt. 17. Pericarditis, with threatened heart failure. A fine aspirator-needle introduced in the fifth intercostal space towards left margin of area of absolute dullness, and two ounces of serous fluid withdrawn. Relief. The next day, condition having become again threatening, tapping was repeated, and four ounces of blood-stained fluid were withdrawn. Marked immediate improvement, and ultimate complete recovery resulted. An examination of the literature of the subject gives 97 cases, of which 38 were successful, and 59 unsuccessful. The operation deserves recognition as justifiable in certain cases. It should be tried whenever life is imperiled by the copiousness of the effusion. It should be tried, even if the pericarditis be not in itself dangerous, in any case of considerable pericardial effusion in which the pulse threatens to fail.

What are the best rules for operative procedure?

1. Exploratory puncture should be made by means of a fine perforated needle, the needle being cautiously introduced at a point where there is absolute dullness and least likelihood of injuring the heart.
2. If the serous fluid be found, the fine needle of an aspirator should be introduced at the same point and the fluid drawn off.
3. If purulent fluid be found, either aspiration, or what is probably better, free incision, should be resorted to and the pus evacuated.
4. As to the quantity to be drawn off, opinions are somewhat contradictory. If the fluid be purulent, it is obviously desirable to remove the whole of it as speedily as possible; if it be serous, this rule does not necessarily hold. Only a sufficient quantity to give relief should be removed. It is a sound principle that in dealing with vital organs only the minimum amount of interference required should be had recourse to, and especially in cases which threaten failure of pulse is this precaution necessary. Repeat the operation rather than to adopt the method recommended by the majority of authorities, and draw off a large quantity at once.
5. At what point should the puncture be made?

It is not very important what point is selected for puncture, so long as the operation is performed with caution. Obviously wounding the heart is to be carefully avoided, notwithstanding the fact that it has been wounded, and even penetrated, without seriously bad effect. The puncture must be made where there is absolute dullness, the fifth interspace being preferable, and as much to the left of the sternum

as possible. By such a rule we most avoid risk of injuring the heart.—*Edinburgh Med. Jour.* 1885. August.

IV. CASE OF TUBERCULAR STENOSIS OF THORACIC DUCT; RUPTURE BY OVERDISTENSION OF RECEPTACULUM CHYLI; CONSEQUENT CHYLOUS ASCITES. By W. WUTTLA, M. D. (Belfast). Boy, *æt.* 13, with previous history of bronchial catarrh and pleurisy, from which he had completely convalesced. About four weeks later suddenly attacked with a shivering fit with pain on left side above the level of the last rib. Two weeks later abdomen was first noticed to be swollen. At end of six weeks was tapped and twelve pints of milky fluid obtained. Rapid reaccumulation. Frequent tapplings, with removal of same milky fluid in each instance, which, upon chemical analysis by Professor Hay, of Aberdeen, was pronounced to be pure chyle. No loss of general weight. Final development of tubercular meningitis and death, just three months from day of first tapping. During this interval 117½ pints, or nearly 15 gallons of chyle, were removed by the various tapplings, amounting in weight to 150 pounds, nearly double that of the patient's body. Post-mortem—the tissues attached to the front of the spine in the abdomen and chest were removed *en masse* down to the periosteum, and a careful dissection of the thoracic duct made by Professor Redfern. The lower third of the duct was found considerably dilated; its walls of normal thickness, and its internal surface smooth and glistening. The middle third of the duct at its lower part was sealed with a perfect plug of fibrin, almost a half-inch in length; here minute miliary elevations were discernible; beyond this the duct was an impervious cord up as far as the extreme upper part of the duct, which was normal. Microscopic examination of the thickened lower part of the duct and of the obliterated middle third, show them to be the subject of tuberculous infiltration. At the lower end of the dilated lower third of the duct was found a distinct perforation, with smooth, non-infiltrated edges, rounded off by vital action, and evidently not made by post-mortem violence. The reporter concludes that the chyle, flowing from the radicals entering the duct from below, caused the receptaculum to dilate and finally to burst, producing a perforation through which the chyle continued to flow into the peritoneal cavity during the remainder of life.—*Brit. Med. Jour.* 1885. May 30.

V. EXPLORATORY INCISIONS IN CASES OF ABDOMINAL TUMORS. By M. TERRILLON (Paris). After alluding to the difficulties of diagnosis in abdominal affections, and the advances that have been made of late years by exploring the abdomen in cases of doubt, M. Terrillon quotes three cases in which this was done, and shows that no harm accrued from the procedure.

CASE 1. Cancer of peritoneum, death a month after the operation; the wound healed readily in a few days.

CASE 2. Ascites from cause unknown. At an early stage of the case the patient was under the care of a physician, who, after drawing off the fluid, injected the peritoneal cavity with iodine and produced a violent attack of peritonitis, but from which the patient eventually recovered. As the abdomen refilled often with a

beer-coloured fluid, which was frequently drawn off and as frequently reappeared, abdominal section was performed, on the supposition that it might be a parovarian cyst, but none was found. There were abundant adhesions of the intestines, and some uterine fibroids. The wound healed readily and the ascites did not reappear.

CASE 3. This case revealed a large gelatinous cyst of the uterus which it was impossible to remove, and the patient recovered from the wound and died about three weeks later.—*Bull. et Mém. de la Soc. de Chirurg. de Paris*. Tom XI. 1885. P 168.

W. BRUCE CLARKE (London).

VI. TREATMENT OF ABDOMINAL ANEURYSM. By Prof. LORETA (Bologna). A sailor, æt. 30. Had primary and secondary syphilis five years ago. In February, 1883, while furling a sail, felt something give way in his belly. In October, 1884, pulsating tumor found in left hypochondrium. When admitted to hospital in December a tumor was found in epigastrium and left hypochondrium, with loud bruit. Pulse hardly perceptible in femoral arteries and ceased altogether when tumor was compressed. Neuralgia in lower limbs. Regarding this as a traumatic saciform aneurysm, probably springing by a narrowish neck from aorta or one of its branches. Loreta determined to separate the sac from its connections, and if possible close its opening out of the artery by suture or ligature; or to empty the sac, invert it and sew it up, and if neither of these proceedings should prove possible, to stuff the cavity with wire.

On December 12, an incision was made from root of ensiform cartilage to umbilicus. The sac was found united to stomach, omentum, transverse colon and liver.

It was found impossible to dissect the sac from the spleen, diaphragm and cardiac end of stomach. Hence it was impossible to trace the aneurysm down to its mouth, nor could it be compressed or emptied. The tumor was punctured by small trocars and silvered copper wire was passed in in the direction of the current of blood. As soon as the wire met with resistance the canula was removed, the end of the wire pushed in with a needle, and the puncture, together with the surrounding tissues, slightly cauterized with pure carbolic acid. A little over two yards of wire were introduced. In a month after the operation the tumor seemed quite consolidated and diminished to a quarter of its former size. The patient left bed on February 2, and was discharged as cured three weeks later. The method employed was first employed by Moore, of Middlesex Hospital, London.—*Brit. Med. Jour.* 1885. April 11. And Memoirs of the Royal Academy of Sciences of the Institute of Bologna, February 8, 1885. Sec. IV., vol. 6.

This patient has since died, but full details of the post-mortem have not been published.

WM. THOMSON (Dublin),

VII. DEMONSTRATION OF AN EXTIRPATED SPLEEN. By Baron HORROCH (Vienna). Patient was a woman æt. 34, who for a year had noticed an egg-sized tumor in the left hypochondriac region, causing pain on standing or walking. While dancing, and without antecedent pain, she was seized with nausea, and soon vomited up blackish material. Abdomen rapidly grew large and painful. She noticed that the tumor now reached farther down and to the right. Very pale and anæmic;

1,700,000 red and 26,000 white corpuscles in 1 cubic centimetre blood. A tumor was felt in the right hypochondriac and epigastric regions. Despite dulness in the iliac region a probable diagnosis of splenic tumor was made.

Extirpation by Prof. Albert 3 weeks later. Hilus of spleen was doubly constricted by false membranes and attached both to the tail of the pancreas and border of larger omentum.

The wound healed in four weeks and patient was perfectly well. Twenty-two days after the operation the blood showed 3,660,000 red and 12,000 white corpuscles to 1 cubic centimetre, an increase of nearly 100,000 red corpuscles daily. Siegel and Haack have found a similar increase in healthy individuals after hemorrhage. The extirpated organ, 21 resp. 24 cm. x 17 cm., showed infarction microscopically.—Report of last Germ. Surg. Cong. in *Centbl. f. Chirg.* 1885. No. 24.

VIII. RESECTION OF INTESTINE. By Dr. A. KOFRANYI. Man, æt. 50. Incarcerated hernia. Gangrenous intestinal loop in the hernial sac; resection of the same and portions of omentum. Considerable difficulty in suturing. Vomiting, coldness of the body and filiform pulse for two days after. Mortification of parts about the external wound, but no fever. Water and opium the first four or five days. Flatus passed on the third day and fecal matter on the sixth, after which the bowels moved daily. External wound closed by the twentieth day. The patient, not entirely right in his head, got up and went out on the eleventh day.—*Wien. Med. Woch.* 1885. Nos. 31 and 32.

W. BROWNING (Brooklyn).

IX. CASE OF INTUSSUSCEPTION RELIEVED BY LAPAROTOMY. By JOHN C. IRISH, M. D., (Lowell). Robust male, æt. 25; immediate cause of attack a fall from a load of hay; obstruction with gradual aggravation of symptoms for five days; localized pain felt in hypogastric region three inches to the right of median line and two and a half inches below umbilicus. Repeated cathartics and enemata brought no relief. Patient being evidently *in extremis*, laparotomy was consented to. Incision in median line from one inch above umbilicus to pubis, left rectus muscle also divided. Intestines drawn out until about fifteen feet lay upon abdomen; an ileo-cæcal invagination was found, the invaginated portion being about three inches in length. As soon as the intussusception was relieved there was a sudden rush of gas, and resumption of the peristaltic action of the intestines, followed by escape of gas from the anus, with a large, thin, feculent discharge. The intestines were replaced with comparative ease and incision closed. Patient, though exhibiting great shock during the manipulation of the bowels, rallied well and quickly. Had opiates and nutrient enemata for first three days. Bowels moved spontaneously on the fourth day. Temperature on evening of third day was 101° F., at no other time did it rise above 100°. Wound healed throughout by primary union. Patient sat up on fourteenth day.—Case reported by Dr. J. B. Heald, in the *Boston Med. and Surg. Jour.* 1885. September 3.

X. CASES OF GUNSHOT WOUND IN THE ABDOMEN. By E. ANDREWS, M. D., (Chicago). CASE 1. Wound made by a 22-calibre bullet, which entered on the linea

alba between the umbilicus and the xiphoid cartilage, traversing directly backwards. The stomach was empty. Considerable shock ensued, but no vomiting. The patient was treated by opiates and starvation. On the tenth day he passed the bullet per anum. He recovered without a sign of peritonitis.

CASE 2. A 38-calibre bullet shot passed completely through the body on nearly the same line as the previous one. Laparotomy was proposed to him, but he refused it. His stomach had no food in it at the time of the shot, but he had taken considerable beer. As he rejected the operation, he was placed on starvation and opiates and recovered without a bad symptom.

CASE 3. The patient received a 38-calibre shot which entered through the border of the cartilages of the ribs upward and to the left of the umbilicus, the bullet apparently passing close to the anterior border of the left lobe of the liver and directly towards the stomach near its greater extremity. The projectile went entirely through the body, passing out of the back at a point opposite, but two inches lower than the place of entry, and on the same side. So far as could be learned there was no food in the stomach at the time of the wound save some beer. Fifteen hours after the injury there was a slight elevation in temperature, and pressure detected a diffused tenderness of the abdomen, extending down to the iliac region on the right side. An exploratory laparotomy was done, by an incision in linea alba between xiphoid cartilage and umbilicus, with usual antiseptic precautions, the spray excepted. The inner orifice of the track of the bullet was found on the interior surface of the cartilages of the ribs, close to the edge of the left lobe of the liver, but not wounding the latter. Considerable bloody serum was sponged out, but there were no clots, and nothing like the contents of the stomach or of the intestines could be found. On drawing the left end of the stomach forwards as far as it would come without violence, no perforation could be discovered, though there were portions which could not be thoroughly searched. The stomach was slightly distended with flatus and liquid, but none of it escaped into the abdomen on making gentle pressure. If the organ was perforated, it was obviously by a valve shaped wound, which prevented leakage. The incision was antiseptically closed and dressed, and the patient treated by starvation and opiates. Immediately after the operation he vomited freely, throwing up mucous, water and bile, but no blood. Six days after the injury all abdominal symptoms had subsided, but delirium tremens had supervened. The author's observations lead him to think that pistol-shots may often penetrate the rather thick walls of the stomach without allowing any escape of its contents, while the same sized bullet traversing the intestines, which are exceedingly thin, will instantly let out the gases and other materials which are in them. In the majority of cases, the danger will be greatly diminished by laparotomy, generally performed at the linea alba. The first incision may be small, to establish the diagnosis; and if hemorrhage or visceral effusion is found, the opening may be enlarged to enable one to tie the vessel, to sew up the perforations, or to excise ragged segments, and to clean out the effusions. The moderate exploratory incision is not of itself very dangerous, if properly performed,

but if it show escape of the contents of the intestines or stomach into the peritoneal cavity, it offers the only reasonable chance of saving the life.—*Jour. Am. Med. Asso.* 1885. August 15.

XI. PENETRATING PISTOL-SHOT WOUND OF ABDOMEN; LAPAROTOMY; SUTURE OF INTESTINE; RECOVERY. By J. B. HAMILTON, M. D. (Washington). Patient, male mulatto, *æt.* 19, shot by a pistol carrying a 32-calibre ball. Point of entrance of missile, one inch to the right and one inch above the navel. Probe showed that abdominal cavity was penetrated. Operated two hours after injury. Six inch long incision in *linea alba*; abdominal cavity full of blood; spurting artery seen in mesentery; artery tied with catgut and cavity cleared of blood; intestine drawn out loop by loop for examination; eleven wounds requiring suture found in small intestine and two in ascending colon. No fecal extravasation, but a melon seed which had escaped through one of the openings was found and removed. The omentum was cut by the ball in several places, and as it was difficult to stop the oozing, a ligature was placed around the wounded mass, and it was cut off. The abdominal cavity was then sponged with solution of bichloride of mercury, cleaned and dried, and the incision closed by sutures. Patient reacted well. During first week there was troublesome tympanites and diarrhoea. Temperature ranged from 100.2° F. to 101.4°, except on evening of fifth day, when it rose to 103°. An inflammation of the right testicle complicated the case; this ultimately suppurated, requiring incision on the tenth day. During second week marked symptoms of exhaustion, which yielded to free use of whisky. On thirteenth day great tenesmus prompted rectal examination, which revealed tumor in pelvic cavity pressing against rectum. On the day following, patient's general condition being good, an incision was made into this tumor through the rectum, in the median line, about two inches within the anus. Free discharge of thin, badly-smelling blood ensued, estimated to be about three pints in amount. Patient passing into a state approaching syncope, rectum was plugged and stimulants given. Plug was removed on following day. From this time the patient steadily progressed toward recovery. He was discharged well on August 8. The bullet was not found at the time of the operation. It was passed *per anum* on the thirteenth day.—*Journal of the Amer. Med. Assoc.* 1885. August 22.

Extremities.

I. CASE OF GANGRENE OF FOOT FROM OBSTRUCTION OF POPLITEAL ARTERY BY HYATIUM CYSTIS. By Mr. H. MALLINS (Norfolk). Man, *æt.* 74. Seven years before admission ulcer formed on leg; last summer was treated in hospital and ulcer healed. A few weeks later the whole foot of the affected side became oedematous, and several of the metatarso-phalangeal joints suppurated. Amputation was performed at junction of lower and middle thirds of femur. The artery was found to be filled with firm clot. Gangrene of stump supervened and the patient died on fifth day. The popliteal artery presented a fusiform dilatation an inch wide and four inches long. A white matter like pus escaped, but on laying the vessel open no pus could be found. The walls of the artery were thickened, but the main bulk con-

sisted of the contents, which consisted of a mass of hyatid cysts, varying in size from a very small pea to that of a good sized raisin. No hooklets could be discovered. Dr. Spencer Cobbold declared the ectocyst to display well marked characteristics appertaining to *chinococcus veterinorum*.—*Lancet*. 1885. April 11. P. 658.

WM. THOMSON (Dublin).

Genito-Urinary Organs.

I. CASES OF NEPHROLITHOTOMY. CASE 1. By Mr. HENRY MORRIS. The patient, a man *æt.* 24, had suffered from pains in his loins ever since he was quite a boy, but during the last two years the pains had much increased, and latterly he had been quite unable to work at all. He complained of much pain in his left testicle, which had undergone almost complete atrophy.

May 10, 1884.—Nephrolithotomy was performed. On reaching the back of the kidney, the kidney-tissue was cut through and the stone removed. The patient made a good recovery and left the hospital with his loin soundly healed on July 8.

He was seen in January, 1885, and states he never felt better in his life, and suffers no pain.

CASE 2. By Mr. CHARLES J. SYMONDS. The patient in question was a man *æt.* 50, who had suffered for twenty-four years from renal colic. The attacks were intermittent and lasted from a few hours to a week. During the four months previous to the operation he had been much weaker, and had at times passed enough blood to obstruct the urethra; hence the operation.

An incision was made parallel with the last rib and the stone was removed with antiseptic precautions on July 11, 1885. By July 20 the wound had quite healed, and on November 10, 1884, when the patient was last heard of, he was quite free from pain except when he over-exerted himself.—Proceedings of Clinical Society, *Lancet*, 1885. March 7.

II. CASE OF NEPHRECTOMY FOR SARCOMA. By Mr. R. N. PUGH. This case is chiefly interesting on account of the curious cause of death.

A child, *æt.* 2 years 4 months, was admitted into the children's infirmary, Liverpool. It was anemic and emaciated and there was a tumor on the left side of the abdomen. Abdominal section was performed on January 17, 1885, and the left kidney in its capsule was removed. Vomiting came on two days after the operation and on the twenty-third the child died. The bowels had not been open since the operation. A post-mortem revealed the fact that a loop of small intestine had become strangulated in a rent of peritoneum behind the left colon. The wound left by the removal of the kidney was progressing quite favorably.—*Med. Press and Circular*, 1885. March.

III. CASE OF NEPHRECTOMY. By Mr. KNOWSLEY THORNTON. Female *æt.* 32, a cook, was admitted to the Samaritan Free Hospital suffering from pain in the right renal region, which she had had since she was 3 years old.

There was a swelling on the right side of the abdomen in the region of the kidney. The swelling was very tender to touch. Urine 1016, no pus, blood or albumen.

October 8, 1884.—Langenbuch's incision was made on the outer side of the rectus and the tumor was removed. It contained two pints of cloudy urine, which was drawn off before its removal. Several calculi were found in the pelvis, and a papillomatous growth blocking up the mouth of the ureter. The wound was soundly healed by the fourteenth day.—*Med. Times and Gazette*. 1885. March 14.

W. BRUCE CLARKE (London).

IV. NOTES ON THE SURGERY OF THE KIDNEY. By Mr. LAWSON TAIT (Birmingham). Notes of nine cases of operative attacks upon the kidney by the author, during the year 1884. The first case was of nephrectomy of right kidney on account of obstructed ureter. Female, æt. 32. At end of six weeks the remaining kidney was secreting 50 ounces of healthy urine daily. Patient made a perfect recovery.

CASE 2. Female, æt. 19. Urinary fistula, the sequel to a ruptured kidney cyst. Nephrectomy. Easy recovery; gradual increase in quantity of urine secreted up to 30 ounces daily, the point reached at time of discharge six weeks after operation.

CASE 3. Female æt. 45. Nephrectomy for supposed solid tumor of right kidney. Operator believes he made a mistake in not exploring the tumor before attempting its removal, for not until the tumor was nearly enucleated did he find it to consist of a series of abscesses. Death from shock about twenty-six hours after operation.

CASE 4. Female, æt. 38. Nephrotomy, and drainage for relief of abscesses of right kidney. Temporary improvement.

CASE 5. Female, æt. 22. Right kidney movable, enlarged and painful. Diagnosis made by abdominal section and exploration. Left kidney being healthy, the right was extirpated. Easy recovery. Subsequent perfect health.

CASE 6. Female, æt. 25. Nephrotomy with removal of large branching calculus from right kidney. Rapid and satisfactory recovery.

CASE 7. Female, æt. 52. Nephrotomy with removal of large calculus from pelvis of right kidney. Rapid recovery, with practically no suppuration.

CASE 8. Supposed cyst of mesentery. Laparotomy for removal. After emptying cyst it was found to spring from right kidney, which was then extirpated. Gradual increase of urine secreted up to 30 ounces daily, with perfect recovery and subsequent good health.

CASE 9. Female, æt. 59. Nephrotomy of right kidney, with removal of large calculus from its pelvis. Easy and rapid recovery.

These cases complete a series of forty operations on diseased kidneys performed by Mr. Tait. These cases have included abscesses, hydatids, sarcoma and calculi. Thirty-eight complete cures have resulted. With two exceptions, all of the operations have involved the right kidney. The most important lesson to be gained from this experience the operator believes to be deducible from the third case of the present series, viz.: to always open a kidney and ascertain its condition exactly before removing it. He condemns interfering with the large malignant tumors seen in children under 15. He does not think it matters much whether the organ be attacked by an abdominal or lumbar incision, as far as the immediate success of the operation

is concerned, but he strongly prefers the abdominal section if there is any likelihood of the kidney having to be removed, on account of the facility which then exists to ascertain the condition of the other kidney before proceeding with the operation. For simple nephrotomy the lumbar incision is the better.—*Birmingham Med. Rev.* 1885. September.

V. DEMONSTRATIONS OF EXURTATED KIDNEYS. CASE 1. By Baron HOROCH (Vienna). After a fall two years before, the patient, a woman *æt.* 40, noticed a tumor in the right side of the abdomen. It was at first size of fist, and sank over to the left on lying on that side. It became more movable and caused stomach troubles. She had to press hard in making water, first passing a clot and then fluid blood with temporary relief.

Examination showed a sharply defined tumor, size of a baby's head, in the half of the belly, and reaching to the left of the median line. Both ovaries could be felt through the vagina. Catheterization of the right ureter gave a very turbid yellow urine containing blood-clots and flocculent pus; slow flow, more rapid on pressing the tumor. Urine from the left ureter was perfectly clear and free from sediment, though containing a trace of albumen. Inflating the colon by effervescent powder gave further diagnostic help. The whole region in front of the tumor filled up and became tympanitic—the cæcum reaching back to the axillary line.

Operation by Prof. Albert; 25 cm. long incision down in front from the eleventh rib. After removal of the tumor two rents were found in the peritoneum. The wound healed with moderate suppuration. Patient discharged completely recovered in four weeks.

The tumor was a carcinomatous degenerated adenoma of the kidney with some healthy kidney tissue remaining in its upper part. Weight 1,300 grms. Before the operation the patient secreted 500 ccm. of urine daily, and a like quantity for some days after. By the thirteenth day it had increased to 1,300 ccm.; by the twenty-second to 2,000, and finally struck a regular average of 2,400 to 2,600.

CASE 2. By Dr. CLATS (Elberfeld). Woman *æt.* 46. Healthy up to four years previously, when she first noticed a rolling in the belly, increased by deep inspiration and rapid movements. Belly grew larger, but for a considerable time there was no pain. A fluctuating tumor was felt in middle of abdomen. Urine all right. Uterus retroverted; only in front of this a pedicle could be felt. Diagnosis, monolocular ovarian tumor. Not operated until the tumor had reached the size of a nine months' pregnancy. Laparotomy. Cyst contained dark bloody material; found to connect with kidney, hence ligation of renal artery and vein and commencement of ureter. Button sutures to the abdominal wound. Course normal. Patient could leave the hospital in four weeks.

Prof. Ribbert found the tumor to be a fibroma with few cells but abundant fibers. It had developed between medullary and cortical substance of kidney, pushing the two apart. The cyst-wall was formed by the distended kidney capsule. In the discussion which followed König stated that, in two recent cases in young children, he

had extirpated the kidney through the belly. In one it was for myxosarcoma of kidney. The operation was easy and successful in both cases. Schönborn said that two years previously he had successfully removed an adenoma of kidney in a child. No recurrence at end of four months.—*Rept. of Germ. Surg. Congress in Centbl. f. Chir.*, 1885. No. 24.

VI. PARTIAL RESECTION OF THE BLADDER FOR A TUMOR. By Dr. SONNENBURG (Berlin). Regarding the merits of suprapubic and perineal cystotomy for removal of calculus, vesical tumors, etc., there is considerable difference of opinion. S. points out that there can be no question of the superiority of the suprapubic method in cases of tumor not simply of the vesical mucous membrane but in the bladder wall itself. Here a radical operation necessitates resection of the bladder wall. Znamensky has demonstrated the possibility of such an operation by experiments on animals. S. thus operated in such a case with exhausting hemorrhages, in a woman of 60. Petersen's balloon in the rectum. It proved necessary to remove two-thirds of the bladder. Peritonium was opened but closely sewed up. Drainage through urethra and abdominal wound. The bladder could not be sutured. No reaction. Death from exhaustion four weeks later. A new vesical space size of a small apple had been formed from the peritonium—as shown by the autopsy.—*Report of Germ. Surg. Congress in Centbl. f. Chir.*, 1885. No. 24. W. BROWNING (Brooklyn).

Wounds, Injuries, Accidents.

I. ON TRANSPLANTATION OF LARGE SKIN FLAPS TO FRESH WOUNDS. By Prof. ESMARCH (Kiel). After reviewing past experience with this method and noting its success, especially in plastic operations about the eyes, he gives some cases of his own. Six years ago he thus cured an ectropium, and more recently the following:

CASE 1. A lady had suffered ten years from a rodent cancer of the nose, and been twice treated by curette and thermocautery. He cut out the diseased portion and, to avoid the disfiguration of a flap from the forehead, took a myrtle leaf-shaped piece of skin $1\frac{1}{2} \times 3$ cm. from the left arm. The latter wound was sutured and healed by primary. The flap shrunk greatly on removal. It was fixed to the nose with four fine catgut sutures so as to fit without tension at any point. Sublimated lint dressing for ten days, when it was found everywhere united. It was somewhat paler and sallow than the reddened surrounding skin. In the following months a thick, horny epidermis layer formed, which had to be repeatedly softened up with warm water. At the end of four months its color was not so very different from the skin about it.

CASE 2. One of those hideous, pigmented mother-marks so frequent about the external canthus of the eye. Formerly he covered the defect on extirpation by pedunculated flaps from the neighboring temporal and buccal skin—in one case by allowing the wound to granulate and practicing Reverdin. In the present case he succeeded much better, by taking a lancet-shaped flap from each arm. Primary union in three weeks—the first dressing remaining two weeks. Pigmented portions of the eyelids he proposes to operate later.

CASE 3. The wheel of a heavy wagon had passed over this patient's face, causing

gangrenous sloughing of the nasal bone and much of the skin of the nose and vicinity. This was replaced by a large pedunculated frontal flap and the frontal defect in turn by two arm flaps. Primary union of all these.

He trims the flap to be transplanted free of all soft and yellowish tissue, until their inner surface is smooth, white and pliable as a glove. This is rewashed in sublimate solution before fixation. (Compare as to technique the abstract of Maas' article in *Annals* for June.)

E. has repeatedly taken flaps from amputated limbs, and once from an old (operated) hernia sack.

Laugenbeck, of Wiesbaden, stated that as a rule he found the epithelial covering of the implanted flap came off in three to four weeks, when the flap became covered with granulations.—Report of Surg. Med. Cong. in *Centrl. f. Chirg.* 1885, No. 24.

II. CASES OF TENDON-SUTURE. By Dr. von FULLENBAUM (Vienna). Although this subject was exhaustively treated by Wölfler last year, F. gives five recent army cases to show the value of W.'s method of suture.

CASE 1. Oblique cut across the back of the hand with a bread knife, involving the common extensor of the index and middle fingers and the extensor indicis. The central end of the latter retracted so far that it could not be reached, unless by slitting up its sheath. The tendons of the common extensor were each united by two fine silk sutures. The accessible peripheral end of the separate indicator tendon was attached beneath to both ends of the sutured indicator branch of the extensor communis. The strongly stretched extensor tendons of the second and third fingers were now fixed (to prevent retraction by muscular action) by silk sutures being passed 2 cm. higher up, through skin and tendon-sheath, and tied over a roll of iodoform gauze. The latter sutures were removed on the fifth day and skin sutures on the tenth. Passive motion was begun on the sixteenth. At writing, six months later, the man had perfect use of his fingers.

CASE 2. Razor cut on back of left thumb. Operated six weeks after injury. The thumb was found strongly adducted and bent into the palm. Active extension, impossible; passive motion free. There was a 2-cm. long skin cicatrix and also a serous fistula. Operated under constriction. The tendon-ends but a few mm. apart and closely adherent to the sheath, were trimmed with scissors and united à la Wölfler; 2 mm. above the central end on the radial side a fine silk suture was passed outwards and again in towards the palm, through the whole thickness of the tendon, then back through and again palmar, and out at the ulnar side. After closely coaptating the two tendon-ends, the silk was passed through the peripheral end in a reverse order and finally the two suture ends were tied on the radial side of the tendon. Fixation-suture to the tendon and over-extension as in previous case. Further course without interruption. Four months later the thumb had normal motility, only at the place of former fixation-suture, the skin and tendon-sheath were adherent, as shown by the folding in of the skin on extension.

CASE 3. Tendon of left extensor digiti minimi severed. Its central end was only found after slitting up the sheath $2\frac{1}{2}$ cm. Result excellent.

CASE 4. Extensor of left middle finger severed close to head of ii phalanx and adjacent joint opened. The articular capsule was first closed, then the tendon was sutured as well as possible, much difficulty arising from the thinness of the middle crus of extensor at this point. The wound united well. Finger was at first straight, though the end phalanx was but slightly movable. The finger gradually became more and more flexed and worse than useless. A further operation refused.

CASE 5. Perfect result from suturing the severed flexor of left thumb.—*Wren. Med. Week.* 1885. Nos. 29 and 30. W. BROWNING (Brooklyn).

Tumors.

I. BRANCHIAL CYSTS. By Dr. H. D. CHAMIN (New York). Two cases. CASE 1. An infant et. 5 days, born with cystic tumor on right side of neck. Had rapidly increased in size and is now as large as an orange. Three silk sutures introduced and retained for three weeks. Reaction slight. Cyst then incised and its contents evacuated, sac distended with sol. acid carbolic (1 to 100) and dressed antiseptically. Sac did not refill, but gradually shrank down to a lump of connective tissue.

CASE 2. Boy et. 8. Cyst size of hen's egg under right side of lower jaw and extending to upper part of neck. History of only two months. Seton introduced. Active inflammatory reaction necessitated its removal after three days. Cyst obliterated.—*The Med. Record.* 1885. July 25.

II. TRAUMATIC ANEURYSM OF THE SUBSCAPULAR ARTERY. By Dr. T. A. McGRAW (Detroit). An account of a case with reflections upon the best method of operative attack on such cases. The author's case was a male et. 27, the subject of a pulsating tumor which filled up the whole axilla, the gradually developing sequel to a stab wound of the shoulder, three years before. Diagnosed as an aneurysm of the axillary artery. Operated by exposure and attempted isolation of the sac, with the view of ligaturing artery outside of sac. In the course of the operation the sac ruptured. Sac then incised, clots turned out, orifice of vessel of supply easily detected but ligation of the vessel through the wall of the sac found to be impossible. The sac was then dissected out until it was possible to throw a ligature around its base. After cutting away the sac it was seen that it was an enlarged branch of the axillary that constituted its vessel of supply, the orifice of the sac being more than a quarter of an inch from the axillary. The axillary was tied on both sides of this branch. Patient did not rally after the operation and died at end of thirty hours. Post-mortem showed that it was the subscapular artery that had been the subject of the aneurysm. In conclusion, the author offers the following propositions:

1. The dangers and difficulties incurred in operating upon traumatic aneurysms by the so-called Syme's method are due principally to the obstruction made by the sac itself, which obscures the anatomical relations, hinders manipulations, and often offers an impassable barrier to the surgeon who seeks to tie the artery through its walls.

2. These obstacles may be overcome by the systematic dissection of the sac from

the surrounding structures, and the ligation of the artery from without instead of from within the sac.

3. This same method of treatment may be made available with idiopathic aneurysms whenever from any cause it may be necessary to operate upon them at the seat of disease.—*N. Y. Med. Journ.* 1885. May 22.

III. CASE OF INGUINAL ANEURYSM; LIGATURE OF EXTERNAL ILIAC; SUPPURATION OF SAC; RECOVERY. By Mr. W. J. WALSHAM (London). A man suffering from aneurysm, size of small cocoa nut, in right groin. Had syphilis. Aneurysm of two months' standing; $5\frac{1}{2}$ inches in longitudinal diameter; 7 in transverse, and projecting two inches above level of thigh attributed to fall. The external iliac was exposed, and two kangaroo tail-tendon ligatures were applied $\frac{3}{4}$ of an inch apart, and the vessel was divided between them with a scissors. The ligatures were cut short, a drainage tube inserted and the wound closed with catgut. The aneurysm remained soft and did not diminish in size. Twenty-three days afterwards the aneurysm gave way at one point and a day later the aperture had increased to the size of a penny-piece, and a clot the size of a walnut was projecting. A probe soaked in a strong solution of perchloride of iron was thrust into the sac through the clot in six or seven places, and the clot covered with collodionised lint. In two days the aneurysm was sloughing and a poultice was applied. Free suppuration ensued, the wound granulated, and the patient was discharged, well, in six weeks. This appears to be the first case in which this method of ligature has been applied to the external iliac. The advantages claimed are: First, that it diminishes the risk of secondary hæmorrhage by removing longitudinal tension of the vessel, and by ensuring that no part of the artery above the upper, and below the lower, ligature, is deprived of the nourishment it receives from the sheaths; and secondly, the artery being divided completely across, there can be no chance of its calibre being restored through the slipping of the knot, the too rapid absorption or giving way of the failure of division of the internal and middle coats.—*Med. Press and Cir.* 1885. April.

WILLIAM THOMSON (Dublin).

IV. CONTRIBUTIONS UPON THE FORMATION OF CANCER OUT OF CHRONIC INFLAMMATORY CONDITIONS OF THE CUTIS AND MUCCOUS MEMBRANES. By Dr. CARL SCHÜTCHARDT (Halle). The author believes that with all our knowledge of the morphological anatomy and histological development, we have no appreciation of the essential nature or creative principle of malignant neoplasms and are not even able to distinguish carcinoma from certain inflammatory hyperplastic changes in epithelial tissue, nor sarcoma from recent granulation-vegetations, and that inquiries into the etiology of the subject are best adapted to throw light upon it. With this view, and holding Cohnheim's theories to be untenable, he advances his observations, first, however, pointing out that attention has been repeatedly called by various authors to the relation of neoplasms to inflammation, and holding it generally accepted by experienced surgeons that cancer may arise from continued or repeated irritation, as sarcoma may do from a single violent traumatism.

He publishes seventeen cases, four of which treat of the tongue or mouth appearing after ichthyosis had previously existed in the parts for years. In such changes the epithelial elements play a much greater part, in the opinion of the author, than was formerly believed. This can be shown by the help of the figuration of the nuclei, in accordance with recent morphological investigations, as well as by the presence of the substance known as eleidine (Ranvier); and the formation of cancer as well as the ichthyosis (psoriasis) linguæ is due to a proliferation of the epithelium of the mucous membrane, sustained by a fluid supply through the blood-vessels of the underlying strata, since a metamorphosis of connective tissue-cells into epithelial ones cannot be conceded.

The other cases refer to cancers of the cutis, most of which occurred at the seat of such chronic irritative affections of the skin as are frequent in chimney sweepers and have since been observed by Volkmann in the workmen in tar and paraffine factories, and described by him as consisting in an additional formation of epidermis and an increased activity of the sebaceous glands. Microscopic examination of the skin affection reveals the epithelial layer developed to such an extent that only a slight increase would be necessary to stamp it as a malignant neoplasm.

Five cases finally represent facial cancers which had developed from the senile dry form of seborrhœa, appearing as small prominent yellow or brown fatty squamous deposits on the skin, that on removal reveal the bleeding cutis. The pathology and microscopical anatomy of this affection is minutely given.

Regarding the etiology of facial cancer, the author follows the opinion of Volkmann that it is due to insufficient cleanliness and care of the skin.

The treatment consists of prophylactic cleanliness and removal of skin affections; seborrhœa to be treated with alkaline lotions; psoriasis linguæ, etc., with actual cautery; developed cancers to be extirpated.—Volkmann's *Samml. klin. Vorträge*. No. 257. W. VAN ARSDALE (New York).

Bones.

I. EXPERIMENTS UPON ENGRAFTED BONE. Dr. Ambrogio Ferrari, after a long series of experiments upon the phenomena attending the engrafting of bones, reaches the following conclusions:

1. Pieces of bone engrafted into the shaft of a long bone become completely united and continue to live.
2. They not only continue to live, but also grow.
3. That such results follow without reference to the position in which the engrafted bone is placed.
4. The reunion of grafts occurs by a true vascularization which takes place between the engrafted bone and that into which it is introduced.
5. That a bony, callous periosteum and medulla are formed in relation with the engrafted bone.
6. That, as in fracture, this callus possesses a temporary vitality.

7. That after a certain time this callus, periosteum and medulla are absorbed, and the engrafted bone is nourished only by a greater vascularization.

8. That grafting occurs more completely if the inserted bone is in exact adaptation with the margins of the bone receiving it. While this observation is not verified, in a case where the opposite condition existed, a longer time was necessary for union to take place.

9. The most complete and careful antisepsis is required in order that complete union of the engrafted bones may occur.

10. The engrafting of several pieces of bone succeeds completely.

11. That in case of engrafting of several pieces of bone with partial suppuration, union of some of the pieces may take place, provided suppuration does not extend to that portion of the engrafted bone in communication with the medulla.

12. Besides antiseptic precautions, compression is required to maintain contact between the medulla and the pieces of bone engrafted in order to obtain a successful result.—*Gazzetta degli Ospitali*. 1885. July 22.

Gynæcological.

I. ON THE ORIGIN AND CURE OF A COLO-UTERO-VAGINAL FISTULA. By Dr. A. BIDDER (Berlin). B. marks three chief periods in the history of his case: 1. Origin of an anus præternaturalis colo-utero-vaginalis. 2. Transformation of the same into an intestinal fistula. 3. Operative closure of the fistula and removal of the remaining intestinal stenosis.

A woman æt. 22 had her first confinement in 1878. Three weeks later a left-sided parametritis resp. pelvi-peritonitis was diagnosed. Some months later a tumor was made out in the uterus. The cervix was dilated and a soft tumor extirpated, which proved to be a 20 cm. long portion of the sigmoid flexure. There had been no symptom pointing to rupture of the uterus and invagination of intestine. Flatus and feces soon passed by the uterus and a left sided phlegmon of the recto-vaginal septum developed, with necrosis of the left vaginal wall, etc.

At the juncture of uterus and left vaginal arch a hole formed, through which the finger passed directly into the descending colon. A valve-like fold of the gut-wall turned all the feces into the vagina. Up to 1883 the various attempts at remedying the trouble proved futile.

B. first saw the patient in 1883 and operated that fall. To gain free access a retractor was applied to the left vaginal wall and the vaginal portion divided to the right. The front lip was drawn down and forwards, the other down and backwards. Two to three cm. of the gut-wall was then prepared off from the uterus, the lip-shaped adhesion divided and vaginal and intestinal walls separated to a depth of 1½ cm. The gut, freed all around, was folded into its lumen, whereby the upper edge covered the lower somewhat like a valve (dédoublement). The depth of the wound prevented the application of sunk sutures to the gut; however, the vaginal and uterine walls were brought exactly together with five deep sutures. Salicylic acid to the wound and a tampon of iodoform gauze. On removing the remaining sutures five weeks

later, the cicatrization was found complete. Not a trace of fecal matter had entered the vagina since the operation.

For the very reason that the unnatural path had been closed by the operation an intestinal stenosis now made itself evident. A broad sack-like transverse fold formed, with its base at the left pelvic wall and its edge near the uterus. Under guidance of the finger in the rectum he pushed a curved trocar through the base, drew a rubber cord after it and over the free edge of the duplicature and tied it. By the next day it had cut through. A severe pararectal inflammation followed, on abatement of which the stenosis was gone and the fecal passage free. Everything remained well until January, 1885, when, without any known cause, a fresh subacute inflammation of the pararectal tissue set in. From this she is now convalescent.

A fully analogous case was not found in the literature.—Rept. of Germ. Surg. Congress in *Centbl. f. Chirg.* 1885. No. 24. W. BROWNING (Brooklyn).

II. CASE OF LAPARO-MYOTOMY. By Dr. ALEX. J. MCCARTY (Jamaica, W. I.). Female, æt. 35. Single. Great and increasing dysmenorrhœa. Constant pelvic pain. Progressive emaciation and loss of strength. Movable tumor size of fetal head in hypogastrium. Laparotomy, May 29, 1884. Listerian precautions observed. Incision from umbilicus to pubis. Tumor found to spring from fundus uteri by a broad pedicle, 4 inches wide, which embraced both fallopian tubes. Right ovary contained a cyst about size of a goose-egg. Pedicle secured by clamp and tumor excised, together with both ovaries. Actual cautery to stump, which was then returned into abdominal cavity. Wound in abdominal wall closed by silver and silk sutures. Patient made a good and prompt recovery, and was discharged well June 21 ensuing. The tumor was a myoma and weighed $3\frac{1}{2}$ pounds.—*Original Communication.*